Electrons

An electron's movement is related to its **energy level**, or specific amount of energy it has.

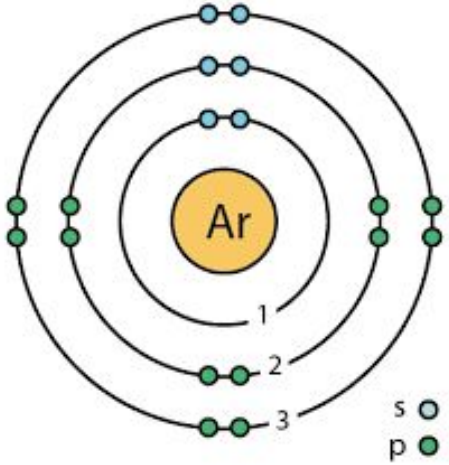
An atom's **valence electrons** are electrons that have the highest energy level and are held most loosely.

The # of valence electrons determines:

- many properties of the element.
- how an atom can bond with other atoms.

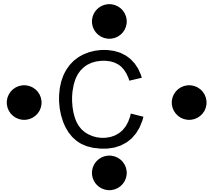
Bohr diagram: Focuses on electrons and their arrangement.

Draw this in your notes.

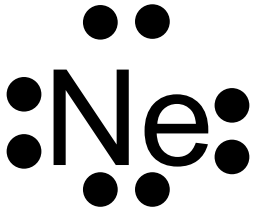


An **electron dot diagram** includes the symbol for the element surrounded by dots. Each dot stands for one valence electron.

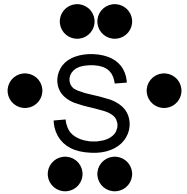
Hydrogen is in group 1 so it has 1 valence electron.



Carbon is in group 14 so it has 4 valence electrons



Neon is in group 8 so it has 8 valence electrons.



Sulfur is in group 16 so it has 6 valence electrons.

Calcium is in group 2 so it has 2 valence electrons.

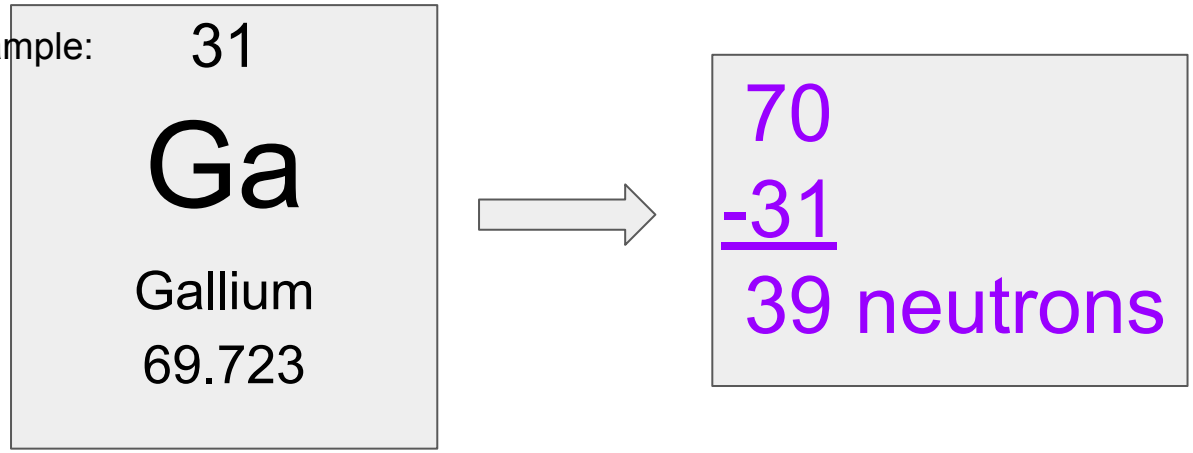
Please make an electron dot structure for each element:

Li	Mg	B
F	Ar	Si
P	S	N

To find the number of neutrons:

1. Find the *atomic number (Ex: 31)*.
2. Find the *atomic mass* (and round it up).
   a. (Ex:69.7 to 70)
3. Subtract the *atomic number from the atomic mass*.

Example:



17

Cl

Chlorine

35.453

P = 17 N = 18 E = 17

Solid Liquid •Gas